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IN THE CLAIMS

1. (currently amended) A method of operating a star tracker comprising:
in a ground station, determining multiple ~~stay-out~~ stayout zones for an object;
in [[a]] said ground station, selecting a first ~~stay-out~~ stayout zone from [[the]] said
multiple ~~stay-out~~ stayout zones;
determining a star in [[the]] said first ~~stay-out~~ stayout zone; and
determining a vehicle inertial attitude or angular velocity, based on star
measurements of sensed or tracked stars, excluding [[the]] said star within [[the]] said
first stayout zone.
2. (original) A method as recited in claim 1 wherein determining multiple
stayout zones comprises calculating at least one circular stayout zone.
3. (original) A method as recited in claim 1 wherein determining multiple
stayout zones comprises calculating at least one non-circular stayout zone.
4. (original) A method as recited in claim 1 wherein determining multiple
stayout zones comprises calculating at least one non-circular stayout zone and one non-
circular stayout zone.
5. (original) A method as recited in claim 1 wherein excluding the star is
performed for a fixed period of time.
6. (original) A method as recited in claim 1 wherein excluding the star is
performed for a non-fixed period of time.
7. (original) A method as recited in claim 1 wherein excluding the star is
dependent on properties of the star and properties of the object.

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8. (original) A method as recited in claim 7 wherein the property is brightness.
9. (original) A method as recited in claim 1 wherein further comprising controlling vehicle attitude or angular velocity, in response to the vehicle inertial attitude or angular velocity.
10. (original) A method as recited in claim 1 wherein excluding the star is performed on-board the vehicle.
11. (original) A method as recited in claim 1 wherein selecting comprises when a star is within the first exclusion zone, excluding the star, when the star is in a second exclusion zone of the multiple exclusion zones, excluding the star when the brightness is below a first magnitude.
12. (original) A method as recited in claim 11 wherein the first exclusion zone has a different shape than the second exclusion zone.
13. (original) A method as recited in claim 11 further comprising when the star is in a third exclusion zone of the multiple exclusion zones, excluding the star when the brightness is below a second magnitude, different than the first magnitude.
14. (original) A method as recited in claim 13 wherein the third exclusion zone has a different shape than the first exclusion zone or the second exclusion zone.
15. (currently amended) A method of determining a vehicle inertial attitude or angular velocity, comprising:
in a ground station, calculating multiple stayout zones associated with a bright object, or a plurality of objects at least one object;

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in [[a]] said ground station, selecting ~~a one stay-out at least one stayout zone from~~ multiple stay-out stayout zones;

calculating ~~the stars at least one star~~ inside [[the]] said at least one stayout zone intruded by ~~a bright~~ said at least one object therein;

listing ~~the stars said at least one star~~ inside [[the]] said at least one stayout zone in an exclusion list;

flagging star catalog or database entries, corresponding to said at least one star [[stars]] listed on [[the]] said exclusion list, as excluded from consideration by an attitude determination algorithm and procedure or a angular velocity determination algorithm and procedure; and

determining a vehicle inertial attitude or angular velocity, in response to data including star position measurements and [[the]] said star catalog.

16. (original) A method as recited in claim 15 wherein determining multiple stayout zones comprises calculating at least one circular stayout zone.

17. (original) A method as recited in claim 15 wherein determining multiple stayout zones comprises calculating at least one non-circular stayout zone.

18. (original) A method as recited in claim 15 wherein determining multiple stayout zones comprises calculating at least one non-circular stayout zone and one non-circular stayout zone.

19. (original) A method as recited in claim 15 wherein excluding the star is performed for a fixed period of time.

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20. (original) A method as recited in claim 15 wherein excluding the star is performed for a non-fixed period of time.
21. (original) A method as recited in claim 15 wherein excluding the star is dependent on properties of the star and properties of the object.
22. (original) A method as recited in claim 21 wherein the property is brightness.
23. (original) A method as recited in claim 15 wherein further comprising controlling vehicle altitude or angular velocity, in response to the vehicle inertial attitude or angular velocity.
24. (original) A method as recited in claim 15 wherein excluding the star is performed on-board the vehicle.
25. (original) A method as recited in claim 15 wherein selecting comprises when a star is within the first exclusion zone, excluding the star, when the star is in a second exclusion zone of the multiple exclusion zones, excluding the star when the brightness is below a first magnitude.
26. (original) A method as recited in claim 25 wherein the first exclusion zone has a different shape than the second exclusion zone.
27. (original) A method as recited in claim 25 further comprising when the star is in a third exclusion zone of the multiple exclusion zones, excluding the star when the brightness is below a second magnitude, different than the first magnitude.
28. (original) A method as recited in claim 27 wherein the third exclusion zone has a different shape than the first exclusion zone or the second exclusion zone.

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29. (currently amended) A system comprising:

a vehicle comprising,

an attitude control system or angular velocity control system;

a star tracker having field of view; and

a ground station comprising,

a star catalog memory having a star catalog stored therein said star catalog having a plurality of entries, each entry having an associated flag therewith;

an exclusion list memory; and

a processor coupled to said attitude or angular velocity control system and said star catalog, said exclusion list memory, said processor determining multiple stay-out stayout zones for at least one [[an]] object, selecting a stay-out stayout zone from [[the]] said multiple stay-out stayout zones, determining a plurality subset of said at least one object objects in [[the]] said stayout zone, excluding at least one of the objects object from said subset of said at least one object from [[the]] said field of view within [[the]] said stayout zone to form a revised database, star catalog, or star sub-catalog, determining a vehicle inertial attitude, angular velocity, relative star sensor or tracker alignment estimate, in response to [[the]] said revised database, star catalog, or star sub-catalog and controlling [[the]] said attitude control system or angular velocity system in response to [[the]] said revised database, star catalog, or star sub-catalog.

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30. (original) A system as recited in claim 29 wherein the vehicle comprises a spacecraft.

31. (original) A system as recited in claim 29 wherein said multiple stayout zones comprises calculating at least one circular stayout zone.

32. (original) A system as recited in claim 29 wherein said multiple stayout zones comprises calculating at least one non-circular stayout zone.

33. (original) A system as recited in claim 29 wherein said multiple stayout zones comprises calculating at least one circular rectangular stayout zone.

34. (original) A system as recited in claim 29 wherein said multiple stayout zones comprises calculating at least one circular stayout zone and one non-circular stayout zone.

35. (original) A system as recited in claim 29 wherein excluding the star is dependent on properties of the star and properties of the object.

36. (original) A system as recited in claim 35 wherein the properties of the star and properties of the object comprise brightness.

37. (original) A system as recited in claim 29 wherein selecting comprises when a star is within the first exclusion zone, said processor excluding the star, when the star is in a second exclusion zone of the multiple exclusion zones, said processor excluding the star when the brightness is below a first magnitude.

38. (original) A system as recited in claim 37 wherein the first exclusion zone has a different shape than the second exclusion zone.

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39. (original) A system as recited in claim 37 further comprising when the star is in a third exclusion zone of the multiple exclusion zones, said processor excluding the star when the brightness is below a second magnitude, different than the first magnitude.

40. (original) A system as recited in claim 39 wherein the third exclusion zone has a different shape than the first exclusion zone or the second exclusion zone.